

REMARKS:

I. Introduction

In the Office Action mailed on April 1, 2005, the Examiner rejected claims 1, 2, 4, 5, and 7 to 25. The present amendment cancels no claims, amends claims 1 and 13, and adds no new claims. Accordingly, claims 1, 2, 4, 5, and 7 to 25 remain pending in this application.

II. Claim Rejections Based on 35 U.S.C. § 112

The Examiner rejected claims 1, 2, 4, 5, and 7 to 25 under 35 U.S.C. § 112, second paragraph as being indefinite because the limitation “the length” in claims 1 and 13 does not have antecedent basis and it is “unclear as to what dimension the length is in a cylindrical shaped aperture.

Claims 1 and 13 have been amended to provide antecedent basis and to clarify that the dimension is the longitudinal length of the aperture. Reconsideration and withdrawal of the rejection is requested.

III. Claim Rejections Based on 35 U.S.C. § 103(a)

The Examiner rejected claims 1, 2, 4, 5, and 7 to 25 under 35 U.S.C. § 103(a) as unpatentable over Cycowicz (US 3,561,792) in view of Chaban (5,738,475).

The fastener 14 disclosed by Cycowicz has a different structure than the fastener of the present invention and as a result does not solve the problem which is solved by the fastener according to the present invention. The fastener 14 of Cycowicz has a head portion 15 engaging the exterior surface of a first link 10 and body portion having a first section 16

extending through a first aperture 11 in the first link 10 and a second section 19 (having a diameter larger than the first section 16) extending through a second aperture 13 in a second link 12. The fastener 14 has a bore 20 so that the free end of the body portion 16, 19 can be plastically deformed into a lip 40 engaging the external surface of the second link 12. A washer 25 is located about the fastener 14 between the links to provide a spring force in the axial/longitudinal direction take out "sloppiness" or free play of the joint in that direction and to provide space for holding a lubricant. As best shown in Fig. 3, the bore 20 is short such that it extends only slightly into the aperture 13 of the second link 12 and does not reach anywhere near the first aperture 11 of the first link 10. The bore 20 is short because its sole purpose is to permit the lip 40 to be formed. The fastener 14 disclosed Cycowicz may be effective at eliminating "sloppiness" or free play in the axial/longitudinal direction, but it does not address the problem of "sloppiness" or free play in the lateral direction (that is, directions perpendicular to the axial/longitudinal direction). Because the bore 20 is short, the body portion 18, 19 does not plastically deform to expand into contact with both the first and second links 10, 12 within the first and second apertures 11, 13 respectively. Particularly note that the body portion 16 within the first aperture 11 is completely solid and thus cannot be outwardly expanded into contact with the first link 10 within the first aperture 11. In order to obtain desired contact, the fastener 14 and the links 10, 12 must be manufactured within relatively small tolerances. Thus contributing to relatively high costs.

In contrast, the fastener of the present invention provides a much more inexpensive solution to the problem. The bore of the present invention extends nearly to the head of the fastener so that the body portion of the fastener can be outwardly expanded by plastic deformation into contact with both of the links within both of the apertures. Because the fastener is expanded into contact during assembly, the parts can be manufactured with

relatively large tolerances and any “sloppiness” or free play in the lateral direction is removed during assembly. Thus reducing costs. It was the inventive insight of the present invention to discover this low cost solution to the problem of lateral free play.

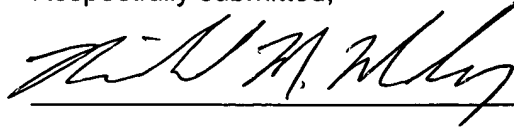
Independent claims 1 and 13, and claims dependent therefrom, are allowable because they each include the limitation “wherein the central bore has a maximum internal diameter which extends through all of the second longitudinal length of the second aperture and more than half of the first longitudinal length of the first aperture so that the central bore extends a distance such that the body portion is plastically deformed into contact with the first link near the head portion within the first aperture to provide continuous surface to surface contact between the body portion and the first link from the first internal surface and extending in a direction toward the head portion for more than half the first longitudinal length of the first aperture which eliminates free play between the first link and the fastener.” No prior art of record reasonably discloses or suggests the present invention as defined by claims 1 and 13. Reconsideration and withdrawal of the rejection is requested.

IV. CONCLUSION

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is found that that the present amendment does not place the application in a condition for allowance, Applicant’s undersigned attorney requests that the Examiner initiate a telephone interview to expedite prosecution of the application.

If there are any fees resulting from this communication, please charge same to our
Deposit Account No. 16-2326.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Richard M. Mescher", written over a horizontal line.

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